NEW ENGLAND
COMMON ASSESSMENT PROGRAM

Practice Test Resource Material

Grade 6

Mathematics

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Session 1—Non-Calculator

Position Number	Item Type	Correct Answer	Content Strand	GLE Stem Number	Depth-of-Knowledge Level
1	Multiple-choice (1 pt.)	C	Functions & Algebra	1	2
2	Multiple-choice (1 pt.)	B	Geometry & Measurement	6	2
3	Multiple-choice (1 pt.)	A	Numbers & Operations	2	2
4	Multiple-choice (1 pt.)	C	Data, Statistics & Probability	1	2
5	Short-answer (1 pt.)	N/A	Functions & Algebra	3	2
6	Short-answer (2 pts.)	N/A	Numbers & Operations	4	2
7	Short-answer (2 pts.)	N/A	Numbers & Operations	3, 4	3

Session 2—Calculator Active

Position Number	Item Type	Correct Answer	Content Strand	GLE Stem Number	Depth-of-Knowledge Level
8	Multiple-choice (1 pt.)	C	Functions & Algebra	1	2
9	Multiple-choice (1 pt.)	B	Numbers & Operations	2	1
10	Multiple-choice (1 pt.)	C	Functions & Algebra	4	1
11	Multiple-choice (1 pt.)	B	Data, Statistics & Probability	5	2
12	Short-answer (1 pt.)	N/A	Numbers & Operations	3	1
13	Constructed-response (4 pts.)	N/A	Geometry & Measurement	6	3

Non-Calculator Short-Answer Item (2 points)

6 In an orchard there are onl y Cortland apple trees and Macintosh apple trees. There are a total of 168 apple trees.

- In the orchard there are 6 ro ws of Cor tland apple trees and 8 ro ws of Macintosh apple trees.
- Each row in the orchard contains the same number of apple trees.

What is the total number of **Cortland apple trees** in the orchard? Sho w your work or e xplain how you know.

Scoring Guide

Score	Description
2	Student correctly answered **72 Cortland Apple Trees**, with work shown or explanation given.
1	Student gives correct answer, but no work or explanation. OR Work or explanation shows correct strategy in solving the problem, but there may be a computation error.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Sample Response:

6 + 8 = 14 rows

168 ÷ 14 = 12 apple trees in each row

6 × 12 = 72 Cortland apple trees

* All students w ere provided the same amount of space in w hich to write their ans wers. For the pur poses of this document, extraneous white space w as removed from each student w ork sample to sa ve space.

Sample 2-Point Response A

There are seventy-two cortland apple trees in the apple orchard.

$14\overline{)168}$ 10
$\underline{140}$ 2
$02\,8$ ⌐12
$\underline{28}$
∞

$\begin{array}{r}{}^{1}12\\ \times\,6\\ \hline 72\end{array}$

Sample 2-Point Response B

15
6
There are
72 Cortland
apple trees.
30
60
90
=210
→120

15
8
90
80

12 in each row x 6 is 72.

96
72
168

12
60
72

126=Cortland
58=Macintosh

12

★ (168) ★

16
80
96

Sample 1-Point Response A

168 apples

72 Cortland apple trees

14
×12
─────
8
+20
+40
+100
─────
168

Sample 1-Point Response B

72 apples

Calculator-Active Short-Answer Item (2 points)

7 Look at this parking meter .

1 quarter for 20 minutes
1 dime for 8 minutes

Quarters   Dimes
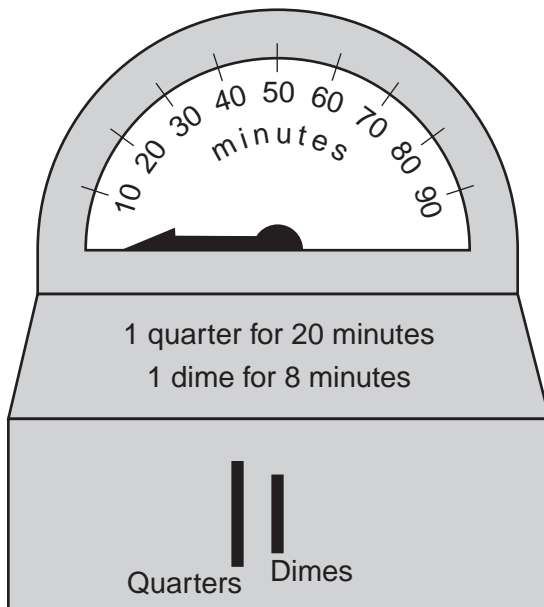
When the meter is at 0 minutes, w hat is the **least** amount of mone y Mr. Blaine will ha ve to pa y to park at the meter for 70 minutes? Sho w your work or e xplain how you know.

Calculator-Active Short-Answer Item (2 points)

Scoring Guide

Score	Description
2	Student correctly answered **$0.90**, with work shown or explanation given.
1	Student gives correct answer, but no work or explanation. OR Work or explanation shows correct strategy in solving the problem, but there is a computation error.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Sample Response:

Quarters	Dimes	Minutes	Amount
4	0	$4 \times 20 = 80$	$1.00
3	2	$(3 \times 20) + (2 \times 8) = 76$	$0.95
2	4	$(2 \times 20) + (4 \times 8) = 72$	$0.90
1	7	$(1 \times 20) + (7 \times 8) = 76$	$0.95
0	9	$9 \times 8 = 72$	$0.90

So the least amount paid is 90¢.

*   All students were provided the same amount of space in w hich to write their ans wers. For the pur poses of this document, extraneous white space was removed from each student w ork sample to sa ve space.

Sample 2-Point Response

The least amount of money would be 90¢

Cost	minutes
25	20
25	20
25	20
25	20
1.00	80

cost	Minutes
25	20
25	20
25	20
10	8
10	8
95	76

cost	Minutes
10	8
10	8
10	8
10	8
10	8
10	8
10	8
10	8
10	8
90	72

Sample 1-Point Response A

$10 = 8 min.
$10 $20 $30 $40 $50 $60 $70 $80
min. 8, 16, 24, 32, 40, 48, 56, 72 $80

Sample 1-Point Response B
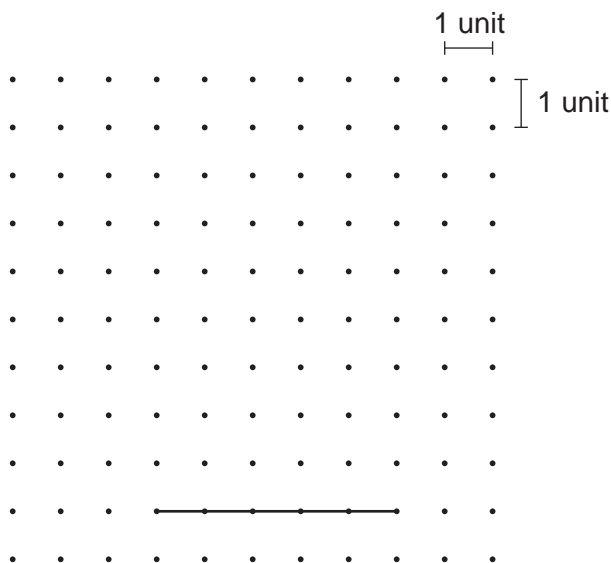
90¢

Calculator-Active Constructed-Response Item (4 points)

13 Sabrina drew the right triangle shown below.

1 unit

1 unit
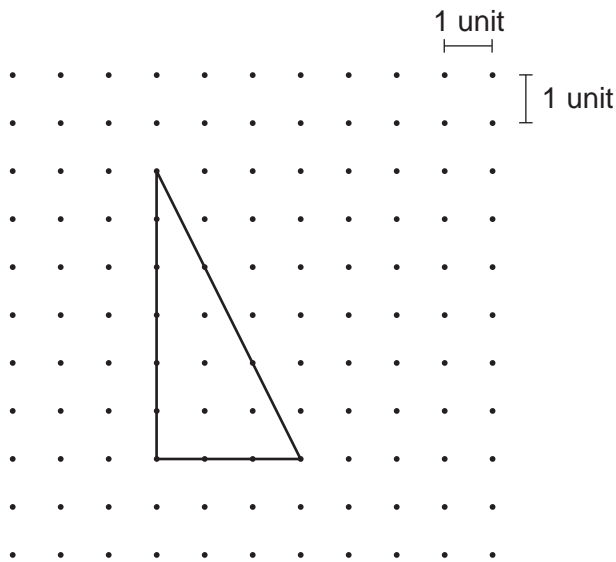
a. What is the area of Sabrina's triangle? Show your work or explain how you know.

b. Luke wants to draw a right triangle with an area of 20 square units. He f rst drew the base of his triangle, as shown below.

1 unit

1 unit

What should be the height of Luk e's triangle? Show your work or explain how you know.

Calculator-Active Constructed-Response Item (4 points)

Scoring Guide

Score	Description
4	4 points.
3	3 points.
2	2 points.
1	1 point.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Calculator-Active Constructed-Response Item (4 points)

Training Notes:

Part a: 2 points   for the correct answer, **9 (square units)**, with work shown or explanation given.
       OR
       1 point   for the correct answer, no work shown or explanation given.
               or
               for correct strategy shown in solving the problem, but there is a computation error.

Part b: 2 points   for the correct answer, 8 **(units)**, with work shown or explanation given.
       OR
       1 point   for the correct answer, no work shown or explanation given.
               or
               for correct strategy shown in solving the problem, but there is a computation error.

NOTES:
- For part a, a student can get a strategy point for "counting squares" only if student correctly indicates the partial squares that add to 1 unit and does not use terminology such as "halves" or "quarters".
- For part b, a student can NOT get a strategy point for "counting squares".
- If student uses unit labels incorrectly (i.e. uses units of length for area or vice-versa), do not award a score of 4, otherwise do not penalize.

Sample Response:

Part a: The base is 3 units and height is 6 units. The area of the rectangle is 18 square units. The triangle is half the area of the rectangle. So the triangle has an area of 9 square units.

Part b: Area of the rectangle is twice the area of the triangle, so the area of the rectangle would be 40 square units. Since the base is 5 units, the height would be 8 units.

      or

Student does it by guess and check and shows that when the height is 8 the area is 20.

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*   All students were provided the same amount of space in w hich to write their ans wers. For the pur poses of this document, extraneous white space was removed from each student w ork sample to sa ve space.

Sample 4-Point Response

A. $Area = \frac{1}{2} \times base \times height$

$\frac{1}{2} \times 3 \times 6 = 9$ 9 sq units

B $\frac{1}{2} \times 5 \times H = 20$ sq units $\frac{1}{2}$ of $5 = 2.5$

$8 \times 2.5 = 20$

8 units high
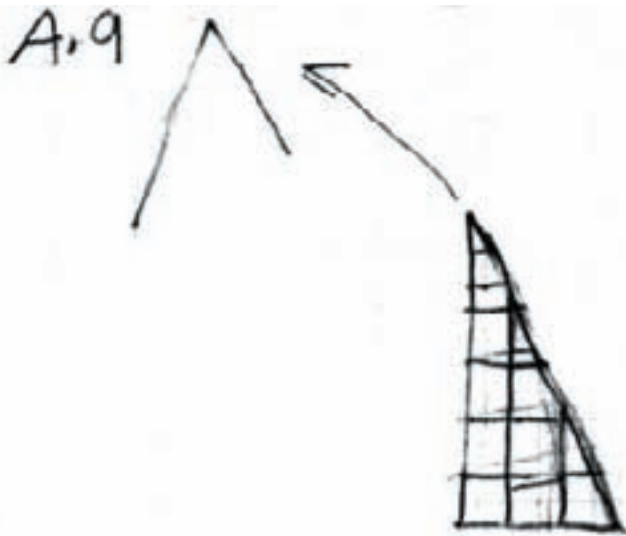
Sample 3-Point Response

A. 9

B. 8

B.= Base=5

.5×5=2.5×8=20 sec   if 5×8=20 butsince your
dividing it by half it woulddouble butsince

the base can't gange the height does.
so it would be 8 units

Sample 2-Point Response A

6 whole squares 6 hop sraqrs = 3 whol square

6+3 = 9

8 because the non equal side is fits togetche lice a pussoil. the area ang has have all equal squares. the area adds up to t vawg

15

Sample 2-Point Response B

a. Sabrina's triangle's area is 9 units, I know because I counted then all.

b. Lukes triangle shoulb be 8 units high. I know because I drew it and counted.

Sample 1-Point Response

The area of subrinas triangle is 9 units because you count up the number of squares.

Luke should make his triangle 7 units high because that will be 20 units

Sample 0-Point Response A

Area __18__ . I multiplyed the
length(6) x width(3) and got 18.

his height should be 5, because
4 × 5 = 20 and he wants his
area to be 20 So it had to
be 5 for his height.

Sample 0-Point Response B

The area of Sabrinas triangle is 26 units because that is how many times 1 unit goes into that triangle.

Lukes triangle should look like this because it has a right angle in it.